VACUUM SYSTEMS

Credit Hours: 3 Semester Hours

Pre-Requisite: None

General Course Description:
This class focuses on the mechanical maintenance, processing, and data collection of vacuum systems typically used in semiconductor processes such as thin film deposition, ion implantation, and reactive ion etching. Lectures consist of a broad introduction to the use of vacuum pumps in semiconductor manufacturing and how to measure vacuum pressure within a multi-pump system. Students will gown up in a bunny suit and work in a cleanroom environment to work with vacuum systems, measure quantities of pressure, and check piping for pressure leaks while recording data on a business communication platforms.

The Vacuum Systems course must cover at least seventy percent of the following learning outcomes, and must cover all learning outcomes marked with an asterisk (*)

Students who successfully complete a Vacuum Systems course are expected to demonstrate all of the following:

1. **Explain the operational mechanisms and process use of vacuum pumps used in the semiconductor industry including pressure units used in high and low vacuum systems. ***
2. **Demonstrates the ability to safely use tools and digital checklists commonly used in vacuum system maintenance while gowned up in a cleanroom environment. ***
3. **Demonstrate the ability to safely test, troubleshoot, and fix a vacuum pump system with a leak using tools while gowned up in a cleanroom environment. ***
4. **Define Pressure. Define vacuum system, be able to understand units used in measuring vacuum and pressure systems. ***